SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS, INC.
4014 LONG BEACH BOULEVARD
LONG BEACH, CALIFORNIA 90807
(213) 426-9544

ROBERT P. STEARNS, PE
E.T. CONRAD, PE
CURTIS J. SCHMIDT, PE

MARK L. BRECHER, PE
GARY L. MITCHELL, PE
RONALD E. PERKINS, PE
DAVID E. ROSS, PE
DONALD E. SHILESKY, ScD
MICHAEL D. SWAYNE, PhD
JOHN P. WOODYARD, PE

December 31, 1979
File No. L2178-019

Mr. Fred Hoffman
U.S. Environmental Protection Agency
Region IX
215 Fremont Street
San Francisco, California 94106

Subject: Technical Assistance Panels, Task Order 19 - Salt River Pima Maricopa Indian Community Tri-Cities Landfill

Dear Fred:

Enclosed are two copies of a revised work plan and a cost estimate for proposed SCS activities in relation to the Technical Assistance project for the Tri-Cities landfill evaluation. The work plan reflects comments provided to SCS by Davis Bernstein via telephone.

Please let me know if you have any questions.

Very truly yours,

David E. Ross
Vice President
SCS ENGINEERS

DER:jot
Enclosure

cc: Davis Bernstein

TECHNICAL ASSISTANCE FOR THE PIMA MARICOPA INDIAN COMMUNITY EVALUATION OF THE TRI-CITIES LANDFILL

DIRECTIVE OF WORK

BACKGROUND

The Tri-Cities landfill is located on the Salt River Indian Reservation east of Pheonix, Arizona. The landfill is an enterprise of the Pima Maricopa Indian community, and has been operated at various locations along the Salt River by the community for the past 13 years.

Three suburban Phoenix cities, Scottsdale, Mesa, and Chandler, rely exclusively on this site for disposal of their municipal solid waste (MSW).

In general, the landfill has been adjacent to the Salt River since its inception. Gravel mining by Union Gravel Company, under an agreement with the Indian community, has created pits into which refuse is placed and collected. The bulk of the waste received is MSW. However, undefined amounts of septic tank pumpings and possibly industrial liquid wastes have been received periodically at the site.

In late 1978 and early 1979, the Phoenix area experienced unusually high rain and subsequent flooding of the Salt River. The last flood in March 1979 breached the river channel and partially washed out in-place refuse adjacent to the river. Two separate areas were affected by washout.

The Arizona State Department of Health Services (DOHS), Bureau of Sanitation, has expressed its concern over potential environmental problems caused by past and future washouts, and potential contamination of ground and surface water due to flooding and/or ground water intrusion. By letter dated November 28, 1979, the Indian community requested technical assistance from EPA to develop a plan for developing alternative solutions, if necessary. The Indian Health Service (IHS) has been requested by the Indian community to represent the Indians in the ensuing discussions with state and EPA regulatory and technical assistance personnel.

On December 6, 1979, the contractor attended a meeting in Phoenix with representatives of the Indian community, the DOHS, the EPA, the Maricopa Association of Governments (MAG), and the State Attorney General's office to assess the problem and determine precisely what assistance is necessary.

As a result of this meeting the TAP contractor shall provide technical assistance in the following two subject areas:

- Evaluation of overall site compatibility with respect to EPA sanitary landfill criteria.
- Evaluation of potential environmental problems due to possible unauthorized hazardous waste disposal at the Tri-Cities landfill.

The work plan for each of these two subject areas is presented below.

PART I - EVALUATION OF SITE WITH RESPECT TO RCRA SANITARY LANDFILL CRITERIA

Task I - Gather Relevant Background Data

The contractor shall gather background data pertinent to the site, to support the evaluation of the Tri-Cities facility with respect to the EPA criteria for classification of solid waste disposal facilities (hereinafter called sanitary landfill criteria). Data to be gathered will include, but will not be limited to, the following subjects:

- Maps of the general area and specifically concerning the disposal site (maps may be available from local sources, including USGS, the gravel mining co., and others).
- Photographs (DOHS).
- Relevant past records on waste input, site use, inspections, enforcement actions, etc.
- Previous site plans (e.g., IHS prepared a plan several years ago).
- Records of seasonal water flow in the Salt River.
- Ground water information (from Ken Schmidt, consultant to MAG).
- Data on waste received at the site, past, present, and projected for the future. (In assessing potential waste input characteristics, SCS shall account for the potential impacts of proposed resource recovery facilities in the greater Phoenix area.)

It is not anticipated that significant effort will be devoted to gathering background data. The contractor shall conduct the investigation based on readily available information.

Task II - Define Boundaries of the Project Area

The contractor shall discuss with the IHS and the Indian community the specific land area which should be considered as part of this study. Since Indian lands extend about 16 miles further along the river, the landfill site is potentially quite extensive. During this task, the contractor will determine the limits of interest for the purpose of evaluation.

Task III - Review Sanitary Landfill Criteria and Associated "Guidance Manual for the Classification of Solid Waste Disposal Facilities," Presently in Draft Form

The contractor shall become thoroughly familiar with sanitary landfill criteria. The newly released draft manual shall be reviewed, and copies of relevant evaluation pages shall be assembled into a field checklist form to facilitate completion of the field evaluation.

Task IV - Evaluate the Tri-Cities Site According to the Criteria

Contractor personnel shall visit the Tri-Cities site to observe all relevant aspects of disposal operations. All appropriate checklist forms shall be completed in accordance with the guidance manual.

Results of the evaluation shall be discussed with EPA and IHS personnel.

After this evaluation, if it is determined that the site does not comply with one or more of the sanitary landfill criteria, the following tasks shall be performed.

Task V - Identify Alternative Corrective Actions Available to Upgrade the Disposal Site According to the Criteria

The contractor shall determine alternative methods for correcting any deficiencies noted at the Tri-Cities landfill. Information sources will be the literature, past experience, and discussions with EPA officials in Washington, D.C., the authors of the criteria.

For each corrective action identified, the contractor shall briefly describe what the action entails, shall sketch any construction measures that may be involved, and shall provide rough preliminary cost estimates for implementing the measures.

In conjunction with EPA and IHS officials, the contractor shall select the one alternative or set of alternatives that would (or could) result in site compliance with the RCRA criteria.

Task VI - Determine Expected Life of the (Corrected) Site

Based on the limits of the study area given in Task II above and on the corrective actions recommended in Task V, the contractor shall calculate the expected life of the Tri-Cities landfill remaining after corrective action has been taken. A reasonable assumption for potential waste volume input to the site shall be made.

Task VII - Identify Alternative Sites Available to the Indian Community for Landfilling

The contractor shall identify alternative sites for a waste disposal facility on Salt River Indian Reservation lands. It is expected that three to five sites shall be identified. Available information about site hydrogeology, soils, and other relevant factors will be used as a basis for alternative site selection. It is not envisioned that this effort will result in a specific site selection at this time.

PART TWO - EVALUATION OF POSSIBLE UNAUTHORIZED DISPOSAL OF HAZARDOUS WASTE

Task I - Evaluate Disposal Operations with Respect to Hazardous Waste Controls

The contractor shall observe all operations at the Salt River landfill. Opportunities for unauthorized entry of hazardous waste into the site shall be noted. These include (but are not limited to) inadequate inspection of incoming waste loads upon entry, and potential for unauthorized entry via other than the main access route.

Task II - Identify Potential Hazardous Wastes That May Have Been Received

Based on evaluation of surrounding industry and agricultural activities, the contractor shall identify possible hazardous wastes that may have been delivered to the Tri-Cities landfill. Interviews with major generating industries (e.g., Motorola) and agricultural activities (e.g., pesticide manufacturers, formulators, and applicators) will be conducted to determine where wastes from these sources are presently disposed, and where they have been disposed in the past. Major generators of waste oil will also be interviewed.

To the extent possible, the contractor shall identify those portions of the landfill that are more likely to have received hazardous wastes.

Task III - Obtain Samples

The contractor shall obtain samples of possibly hazardous wastes that may be observed during the site investigations. Also, soil samples from the areas suspected of having received hazardous wastes will be taken. To the extent possible, samples of waste and soil from subsurface locations will also be obtained and appropriately marked.

The contractor shall obtain all relevant samples in a manner consistent with EPA sampling procedures. The contractor shall prepare the samples for shipment and shall ship them to the EPA regional offices in San Francisco for analysis, unless otherwise notified.

To assist in laboratory analysis, the contractor shall identify the types of materials suspected in the samples.

Task IV - Assist in Developing Plans for Further Site Monitoring

The contractor shall meet with representatives of MAG (Ken Schmidt) and EPA after the field work is performed, and ideally after laboratory results from the soil and waste samples are available. The contractor shall assist MAG and EPA in preparing plans for further monitoring activities, if such further activities are deemed necessary.

The contractor shall be available to discuss its activities with representatives of EPA, MAG, and DOHS in conjunction with activities on the ground water monitoring aspects of the overall site evaluation program.

Task V - Complete and Critique EPA Form T-2070-3 (10-79)

The contractor shall complete the form "Potential Hazardous Waste Site/Site Inspection Report" for the Tri-Cities landfill. Also, if appropriate, the contractor shall complete the supplemental report "Landfill Site Inspection Report," EPA Form T-2070-3E (10-79).

Based on a review of the form(s) and firsthand experience in filling out the form, the contractor shall critique the form's organization and instructions. This critique shall be prepared and submitted to EPA Region IX to facilitate form updating or modification, as necessary.

Task VIII - Prepare Report of Project Activities

The contractor shall prepare a report describing the activities performed in parts one and two, including basic data, maps, and pertinent descriptions. Also, the contractor shall assist EPA and IHS in developing a plan for further work, if indicated, at the Tri-Cities landfill, to bring the site into compliance with state and EPA environmental protection regulations.

SCHEDULE

The work outlined above shall be completed within two months of the notice to proceed, as shown on Figure 1, in connection with other related site work being done by others.

TABLE 1. ESTIMATED LABOR EFFORT (Person-Hours)

Labor Category	Part I							Part II						Total
	I	II	III	IV	V	VI	VII	I	II	III	IV	V	VI	
Project Director	1	1	-	2	8	2	6	2	2	-	4	-	2	30
Project Manager	5	4	1	2	20	2	10	2	4	4	8	2	6	70
Project Engineer	8	1	-	12	20	2	-	8	8	4	8	6	-	77
Staff Engineer	20	-	3	16	28	6	24	4	20	12	-	-	32	165
Technicians	8	-	-	-	14	4	20	-	12	16	-	-	6	80
Secretarial	2	-	-	-	10	-	-	-	2	-	-	-	20	34
Total	44	6	4	32	100	16	60	16	48	36	20	8	66	456